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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,212	06/25/2003	Doh-Suk Kim		3320

7590 11/13/2006

Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER

STORM, DONALD L

ART UNIT	PAPER NUMBER
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2626

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/603,212		KIM, DOH-SUK	
	Examiner		Art Unit	
	Donald L. Storm		2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-25 and 35-38 is/are rejected.
- 7) ☒ Claim(s) 26-34 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Allowable Subject Matter

2. Claims 26-34 and 39 would be allowable over the prior art of record if rewritten to include all of the limitations of the base claim and any intervening claims. The whole structure and interaction expressed by the combination of all limitations is not made obvious compared to the prior art of record for the whole invention of those dependent claims, particularly with detecting distortions using envelope information and modifying an objective assessment to reflect the impact of the distortions on subjective assessment of quality. Certain assumptions that make the limitations clear have been considered for the claims, as described next or elsewhere in this Office action. The claims should also be rewritten to overcome any objections or rejections under 35 U.S.C. 112(2), especially as appearing in this Office action.

Response to Amendment

3. The Applicant's amendment filed August 16, 2006 fails to comply with the requirements of 37 CFR 1.121. Each amendment document that includes a change to an existing claim must include all of the claims ever presented in ascending numerical order in a claim listing. Consecutive claims having the same status of "canceled" or "not entered" may be aggregated into one statement. The instruction to cancel claims 1-20 is an active instruction; an indication of status will be passive and may be of the form, for example, Claims 1 -20 (canceled). See MPEP § 714.

To advance prosecution, the Applicant's amendment filed August 16, 2006 has been entered. The next response from the Applicant should amend the current listing of claims in accordance with the requirements of 37 CFR 1.121 to include all of the claims ever presented.

Specification

4. The substitute specification (received August 16, 2006) has been entered and is now the specification of record.

Claim Informalities

5. Claims 26-34 and 39 are objected to as being (directly or indirectly) dependent upon a rejected base claim. See MPEP § 608.01(n)V.

6. Claim 22 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the objective speech quality assessment values" (line 2) needs clarification. Because only one value was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phrase as --the objective speech quality assessment value--.

7. Claim 27 is objected to under 37 CFR 1.75(a) because the scope must be interpreted when the symbols making up the claim limitations are not defined in the claim. The symbols " m ", " m_I ", " l_I ", " $e(l_I)$ " found in the equation should be defined in the claims at least the first time used, if a concise and accurate definition is available. No new matter may be introduced into the disclosure as filed.

8. Claim 30 is objected to under 37 CFR 1.75(a) because the scope must be interpreted when the symbols making up the claim limitations are not defined in the claim. The symbols " l_M ", " $\Delta e(l_M)$ " " m ", " m_M ", found in the equation should be defined in the claims at least the first time

used, if a concise and accurate definition is available. No new matter may be introduced into the disclosure as filed.

9. Claim 33 is objected to under 37 CFR 1.75(a) because the scope must be interpreted when the symbols making up the claim limitations are not defined in the claim. The symbols “ m ”, “ m_s ”, “ l_s ”, “ $\Delta e(l_s)$ ” found in the equation should be defined in the claims at least the first time used, if a concise and accurate definition is available. No new matter may be introduced into the disclosure as filed.

10. Claim 36 is objected to for the same reasons as claim 22 because the limitations are recited using obviously similar phrases.

Claim Rejections - 35 USC § 102

Hollier ‘188

11. Claims 21-23 and 35-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Hollier [US Patent 5,794,188] (Hollier ‘188).

12. Regarding claim 21, Hollier ‘188 [at column 2, lines 22-47] describes a method for objectively assessing speech quality by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

detecting distortions in an interval of activity using information [at column 9, line 63-column 10, line 33, as calculate a sum as an indication of the amount of distortion being total error activity and error entropy (distribution of error) in a sequence of bandpass values using error values and indicate whether it has passed a threshold];

modifying an objective quality assessment value associated with the activity to reflect the impact of the distortions on subjective quality assessment [at column 11, line 52-column 12, line 15, as convert the relationship between error activity and entropy and distortion to a prediction of subjective opinion scores of human listeners for the varying levels of distortion];

the information describes envelope [at column 8, lines 19-22, as band amplitude values of 20 signal passbands];

the activity and the quality assessment values describe speech [at column 4, lines 60-67, as the data comprises speech].

13. Regarding claim 22, Hollier '188 also describes:

determining the objective values for the activity [at column 11, lines 11-18, as summing the error activity and error entropy values to form a measure of distortion].

14. Regarding claim 23, Hollier '188 also describes:

the distortions are impulsive noise (or other) [at column 5, lines 58-60-61, as noise will be noise bursts].

15. Claim 35 sets forth limitations similar to claim 21. Hollier '188 describes the limitations as indicated there. Hollier '188 also describes:

means for detecting and modifying [at column 7, lines 39-48, as the analysis unit comprising a processor and instruction sequences for the processor].

16. Regarding claim 36, Hollier '188 also describes:

determining the objective values without accounting for distortions for the activity [at column 11, lines 11-18, as summing the error activity and error entropy values over the whole duration of the signal to form a measure of distortion];

means for the determining [at column 7, lines 39-48, as the analysis unit comprising a processor and instruction sequences for the processor].

17. Claim 37 sets forth additional limitations similar to limitations set forth in claim 23. Hollier '188 also describes the additional limitations as indicated there.

Claim Rejections - 35 USC § 103

Hollier '188 and Hollier '083

18. Claims 24, 25, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollier [US Patent 5,794,188] (Hollier '188) in view of Hollier et al. [US Patent 6,119,083] (Hollier '083).

19. Regarding claim 24, Hollier '188 describes the included claim elements by dependency as indicated elsewhere in this Office action. Hollier '188 [at column 5, lines 53-65] also lists types of distortion that that may exist in speech signals during analysis. However, Hollier '188 does not explicitly describe determining a type of distortion during the assessment of speech quality.

Hollier '083 [at column 4, lines 17-46] also determines and corrects objective values of speech distortion to reflect subjective values of speech distortion. In addition, Hollier '083 describes:

detecting distortion includes determining a distortion type [at column 3, lines 52-53, as generating a classification of severity and type of distortion].

As indicated, Hollier '083 shows that determining a distortion type was known to artisans at the time of invention. Since Hollier '083 [at column 12, lines 56-59] also points out that measures of both quality and type of distortion provides the user the advantage of identifying what remedial action is necessary and prioritizing such actions, it would have been obvious to one of ordinary skill in the art of assessing speech quality at the time of invention to include the concepts

described by Hollier '083, at least including also determining a distortion type with Hollier '188's assessment of speech quality, because knowledge of the type of distortion would provide the user the advantage of identifying what remedial action is necessary and prioritizing such actions.

20. Regarding claim 25, Hollier '083 also describes:

the distortion type is determined [at column 3, lines 52-53, as generating a classification of type of distortion].

Hollier '188 also describes:

the distortion type is impulsive noise [at column 5, lines 58-60-61, as noise will be noise bursts];

the information indicates that the activity can be perceived by a listener to be noise [at column 10, lines 24-27, as the error activity and error entropy correspond to a perceived level of distortion found by the listener];

the interval is of a duration long enough to be perceived by a listener [at column 10, lines 25-29, as a period of time of error will be found by the listener];

the interval is not too long for a short burst [at column 5, lines 53-60, as the test signal has a noise burst];

the listener is human [at column 11, line 53, as human listeners provided measurements].

21. Claim 38 sets forth additional limitations similar to limitations set forth in claim 21.

Hollier '188 and Hollier '083 describe and make obvious the additional limitations as indicated there. Hollier '188 also describes:

means for detecting and modifying [at column 7, lines 39-48, as the analysis unit comprising a processor and instruction sequences for the processor].

Response to Arguments

22. The prior Office action, mailed March 14, 2006, requires a substitute specification, objects to the claims, rejects claims under 35 USC § 102 and § 103, citing Hollier and others, rejects claims under 35 USC § 101, and under the judicially created doctrine of obviousness-type double patenting. The Applicant's arguments and changes in AMENDMENT, filed August 16, 2006, have been fully considered with the following results.

23. The substitute specification (received August 16, 2006) is present and is now the specification of record.

24. With respect to objection to those claims needing clarification, the objections no longer apply because the claims have been canceled. Please see new grounds of objection.

25. With respect to rejections of claims under 35 USC § 102 and § 103, under 35 USC § 101, and under the judicially created doctrine of obviousness-type double patenting, the rejections no longer apply because the claims have been canceled. Please see new grounds of rejection.

Conclusion

26. The following references here made of record are considered pertinent to applicant's disclosure:

Hollier et al. [US Patent 5,848,384] measures a distorted version of a received signal and a distorted version of a reference signal for assess signal quality.

27. Any response to this action should be mailed to:

Mail Stop Amendment

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(571) 273-8300, (for both formal communications intended for entry and for informal or draft communications, but please label informal fax as "PROPOSED" or "DRAFT")

Patent Correspondence delivered by hand or delivery services, other than the USPS, should be addressed as follows and brought to U.S. Patent and Trademark Office, Customer Service Window, **Mail Stop Amendment**, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

***** **IMPORTANT NOTICE** *****

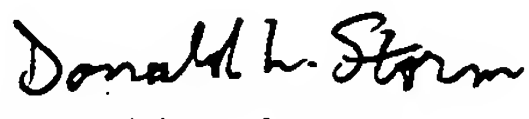
The Examiner handling this application, who was assigned to Art Unit 2654, is assigned to **DIVISION 2626** as a result of consolidation in Technology Center 2600. Please include the new Division in the caption or heading of any communication. Your cooperation in this matter will assist in the timely processing of the submission and is appreciated by the Office.

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Division 2626, whose telephone number is (571) 272-7614. The examiner can normally be reached on weekdays between 7:00 AM and 3:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the

Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see <http://pair-direct.uspto.gov>. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 27, 2006


Donald L. Storm
Examiner, Division 2626